efergy

CE RoHS N16354

At the end of its serviceable life, this product should not be treated as household general waste. It should be handed over to the applicable collection point for the recycling of electrical equipment, or returned to the supplier for disposal.

*All values shown in this manual are only examples. Actual figures will vary depending on your consumption.

E2

WIRELESS ELECTRICITY MONITOR

efergy

INSTRUCTION MANUAL

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INTRODUCTION

Energy metering and monitoring are at the heart of energy management, understanding when and where your energy is consumed is key to saving money.

The **e2** wireless electricity monitor shows the amount of energy that a household is consuming at the time the display is read. The display can also give the user a reading showing usage in financial terms. You can walk around the home with your monitor device, switching appliances on and off, to see the difference that each one makes. With a few small changes in your consumption behaviour the **e2** can help you reduce your energy costs.

Ask George
If you have any questions about using your **efergy** monitor or if you'd like further advice on monitoring electricity at home, please feel free to contact us, or visit the website for up to date information, downloads and frequently asked questions.

Email your questions to;
info@efergy.com for UK

Email your technical questions to;
askgeorge@efergy.com for UK

We aim to answer all your email's within 48 hours

www.efergy.com for UK

IMPORTANT SAFETY INFORMATION

IMPORTANT: It is important that you observe some simple precautions before using this product.

- When installing the **efergy** monitor you should find that everything is relatively straightforward. However, there are a number of important health and safety issues which you need to be aware of.

- Please read and act upon the important information on the following pages. Remember the device is not intrusive and does not require rewiring.
  In some countries (i.e Australia) the live cable can only be accessed by a qualified electrician.

- If you notice anything unusual about the electricity supply such as loose wires, exposed cabling, burn marks, holes in the insulating materials or damage to the meter, stop immediately and report the findings to your supply company.

- Do not force or bend the cables at any point during installation. If you are worried or have any concerns about the installation, please contact a qualified electrician immediately.

- The user does not need to remove the sensor through the working life of the unit. Battery changes are performed on the transmitter and on the display. There are no batteries to change in the sensor.

IN THE BOX

Your **e2** Pack contains the following elements:

1 x mini CT Sensors
1 x Transmitter
1 x **e2** Wireless Energy Monitor

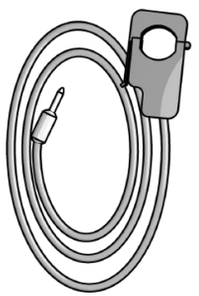
You will need to attach the sensor to the live feed cable which connects the meter to the monitor. Any power you use in your home will pass through this cable. The clip on sensor acts as a CT sensor, and relays the amount of current being drawn in the home to the transmitter. From there it is sent wirelessly to the energy monitor, which shows how much power is being consumed.

You can upload your energy data from your **e2** monitor onto your PC/Mac using **elink** software.

It also includes:

1 x USB Cable
1 x **elink** Software CD
1 x **elink** Software Guide
1 x Instruction Manual

CT sensor



Transmitter

Wireless Energy Monitor

HARDWARE INSTALLATION

MOUNTING INDIVIDUAL OR MULTIPLE CIRCUITS

Locate Your Electrical Panel

Locate your electricity meter and determine its type. You can normally find this on an outside wall, in the garage, basement or utility room. If you live in a flat, it can often be found outside your front door, in the communal stair case, or in the basement. Ensure there is enough of accessible cable coming from the bottom of your electricity meter.

Modern office blocks and apartments may have safety panels to protect wires entering the meter. It is recommended that professional electricians be contacted where this is the case.

Find the Main Feed Wires for Your Home

You should find four cables exiting the meter (see both Fig. 1 and Fig. 2). The feed cable (cable 4) is the live cable exiting from the meter to the fuse box. Connect the mini CT sensor to cable 4. Some installations will have cable 1 and cable 2 covered or partially covered to prevent any tampering with the supply (see Fig. 2). In this case you will still attach the sensor to cable 4.

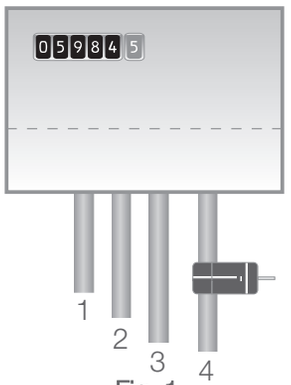


Fig. 1

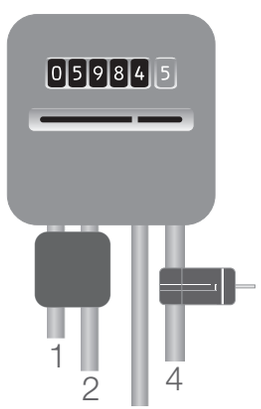


Fig. 2

HARDWARE INSTALLATION

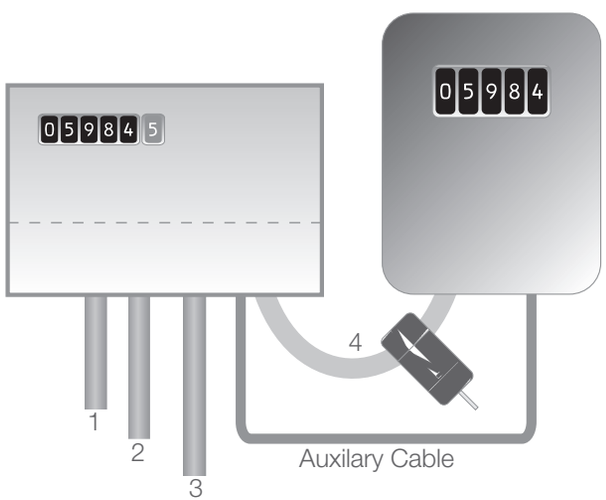
MOUNTING INDIVIDUAL OR MULTIPLE CIRCUITS CONTINUED

Dual Tariff Meters

Dual Tariff meters (shown in Fig. 3) will often have an auxiliary cable running between cable 3 and cable 4. Auxiliary cables will be smaller in diameter than the feed cables, and will run into an adjoining metering device.

Newer installations will normally have two cables exiting from the bottom of the meter. One is the earth cable, the other the live feed cable. The mini CT sensor should be clipped around the live feed cable (this is normally brown coloured).

If you have a three phase supply, or economy 7 meter, then you may require additional sensors. These can be simply plugged into the additional sockets at the base of the transmitter. Please contact your supplier for additional sensors.



HARDWARE INSTALLATION

INSTALLING THE MINI CT SENSOR

The sensor needs to be fitted to the live feed cable. Sensors are suitable for cables up to 12mm in diameter. You should not force the cable to fit. The sensor should fit loosely around the cable and there should be no packing used.

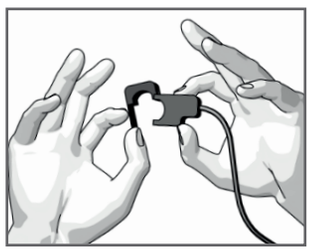


Fig. 4

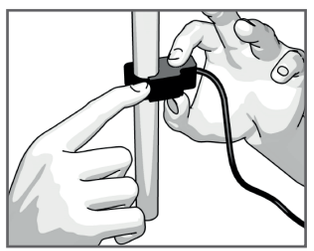


Fig. 5

1. Pull the release clip to open the mini CT sensor (Fig. 4)

2. Select the correct feed cable, and then place the sensor around it

3. Push the clasp to close around the feed cable securely (Fig. 5)

Remove a standard 1cm knock out from the meter box. Feed the mini CT sensor lead from inside the box out through the raw knock out hole. Open and place the mini CT sensor around the live feed cable 4 (Fig.5).

Mounting the Transmitter

Insert the jack on the end of the mini CT sensor wire into any of the three input sockets on the transmitter. The mini CT sensor acts as a current sensor and relays the current being drawn into the home to the transmitter. Mount the transmitter on the wall next to or above the meter box. This will make it easier to replace the batteries (although the batteries will last for a long time). If the panel is in a finished area, you may mount the transmitter inside the meter box. This may reduce transmission distance. Replace the panel cover(s) when finished installing the mini CT sensors.

MONITOR SETUP

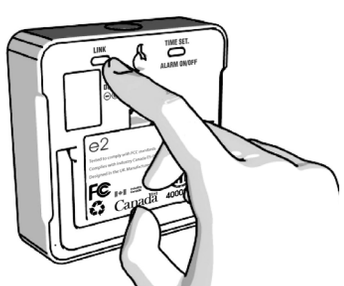
LINKING THE TRANSMITTER AND MONITOR

Step 1 - Ensure three AA batteries are inserted in the transmitter and three AAA batteries are inserted in the wireless energy monitor. Observe polarity when installing batteries.

Step 2 - Push the **link** button on the reverse of the monitor for two seconds. The transmission signal symbol will flash for one minute.

Step 3 - While the transmission signal in the display flashes push the **link** button on the front of the transmitter and wait until the transmission signal symbol becomes solid.

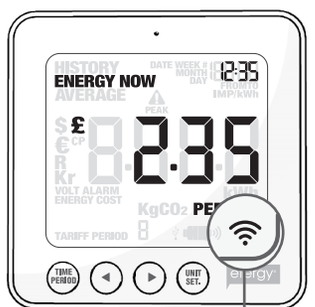
Note - The default value for the transmission frequency is six seconds. This means the transmitter is sending information every six seconds. You can change the frequency from 6s (red flashing light) to 12s (orange flashing light) and to 18s (green light) by pushing and holding the transmitter button.



Wireless energy monitor **link** button

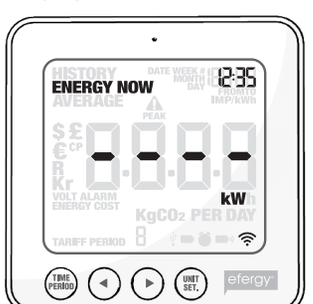
Transmitter **link** button

If the **link** is completed you will clearly see the transmission signal



Transmission Signal

If the **link** is not completed you will see dashes on the display



MONITOR SETUP

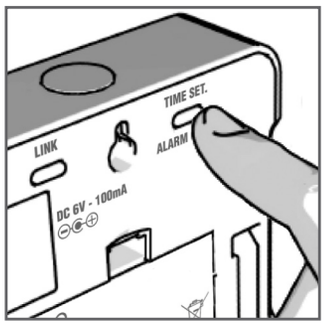
SETTING THE TIME AND DATE

The **e2** monitor needs to know the time and date in order to provide you with the correct information.
Set the time and date as follows:

Step 1
On the reverse of the display you will find the **time set** button. Press and hold for two seconds. Time set up will flash in the display.

Step 2
Set the hour to the correct time by using **backward** and **forward** buttons. Press **unit set** button once to save the hours. Repeat for minutes, using the **unit set** button to confirm.

Step 3
Set the date by using the **backward** and **forward** buttons. Press **unit set** button to confirm and move to month set up. Repeat the process to set the year. Once the correct time and date have been set, push **unit set** button to save and exit.



Hold for 2 seconds

press **time period** button to exit

MONITOR SETUP

SETUP INSTRUCTIONS

IMPORTANT - Throughout the setup process, push the **time period** button at any time, your settings will be saved & you will exit the function setting mode.

The **efergy** monitor needs to know the unit cost per kWh charged by your electricity supplier, along with voltage and alarm settings. The following steps will move through each of these settings (See page 15 for Dual Tariff Settings).

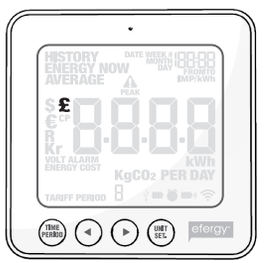
Press and hold down the **unit set** button for two seconds, this will enable you to enter the setting mode.

Note - Twenty seconds of inactivity in setting mode will return the unit to normal display mode without saving changes.

Step 1 - Voltage
Press and hold **unit set** button for two seconds. Default voltage is set at 240V. Use **backward** and **forward** buttons to change the voltage. Press **unit set** button to save your setting and move into currency selection setting.

hold for 2 seconds

Step 2 - Currency Selection
Select the currency using **backward** and **forward** buttons. Default currency will be £. Push **unit set** button to confirm and to move onto tariff selection set up.



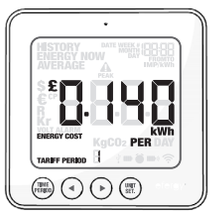
MONITOR SETUP

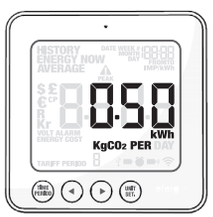
Step 3 - Single Tariff Set Up
On release you will see the symbol **tariff period 1** will be highlighted. If you are charged one single tariff push **unit set** button to confirm. If you have dual tariff rate, please see the following page.

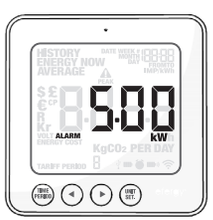
Step 4 - Electricity Cost
Default cost is set at 0.140 £/kWh. This is the average price per kWh electricity that suppliers charge. Use the **backward** and **forward** buttons to set the cost per kWh. Press **unit set** button to save your setting and to move onto carbon emission ratio setting.

Step 5 - Carbon Emissions Ratio
Now set your carbon emissions ratio. This value can be increased or decreased using **backward** and **forward**. Press the **unit set** button to store the value. The European average is 0.50 kg. CO_2/kWh, this is the default value. Press **unit set** button to save your setting and move on to alarm setting.

Step 6 - Alarm
The default **alarm** is set at 5kW. If the alarm function is switched on, and you are using more than 5kW, the alarm will sound. This value can be increased or decreased using **forward** and **backward** buttons. Press **unit set** button to store the value and exit the **function** mode. To activate and deactivate the alarm at any time press the alarm on/off button on the back of the unit.







MONITOR SETUP

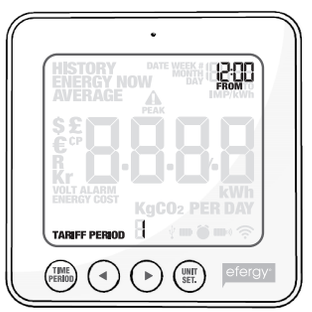
DUAL TARIFF MODE

If you have a dual or multiple tariff rate meter you may want to setup the dual tariff function.

Step 1 - Activation Of Dual/Multiple Tariff
Press and hold **unit set** button for two seconds. On release you will see the voltage setting flash. Press **unit set** button twice and you will move onto the tariff selection setting. Now you will see the symbol TARIFF 1 flash. Press **backward** or **forward** buttons to select dual or multiple tariff set up (you can select up to four tariffs). Push **unit set** button to confirm. Now you have to set START and END time periods for each tariff.

hold for 2 seconds

Step 2 - Set Start & End Time For Tariff 1
Set the start time for TARIFF 1 first using **backward** or **forward** buttons. Set the hours and press **unit set** button to save and move to minute set up. Set minutes using **backward** or **forward** buttons and pushing **unit set** button to confirm. Repeat the process for other tariffs (if you have multiple tariff settings). You will always set one period of settings less than the number of tariffs you have selected as the remaining period will be saved automatically.



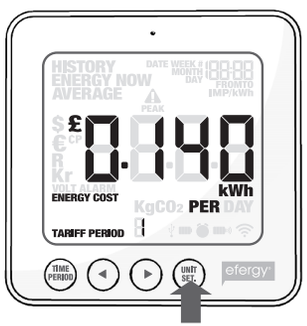
MONITOR SETUP

Step 3 - Set Tariff 1 Rate
Use **forward** and **backward** buttons to input the cost per kWh. Press **unit set** button to save your setting. Tariff 2 set up will flash.

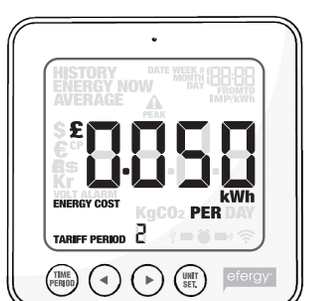
Step 4 - Set Tariff 2 Rate
Use **backward** and **forward** buttons to input the cost per kWh. Press **unit set** button to save your setting.

Step 5 - Set Tariff 3 & 4 Rate
Use **backward** and **forward** buttons to input the cost per kWh. Press **unit set** button to save your setting. Repeat the process for Tariff 4.

Example - If you are on a tariff which starts at 1:00am and finishes at 8am, set start time at 01:00 and end time at 08:00. Push the **unit set** button to confirm. Select and set the cost per kWh you pay for each tariff, for night and day time rates respectively.



hold for 2 seconds



PEAK When in ENERGY NOW mode, this symbol appears when the most expensive tariff is in use.

MONITOR SETUP

HOW TO CHANGE FUNCTIONS

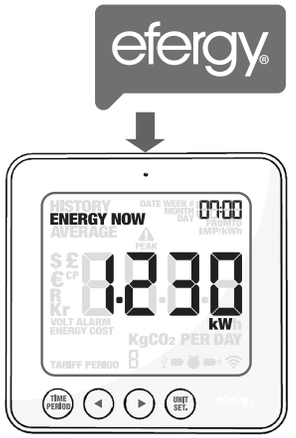
Function
Press the top **function** button to change the information displayed from **ENERGY NOW** to **AVERAGE** and to **HISTORY**.

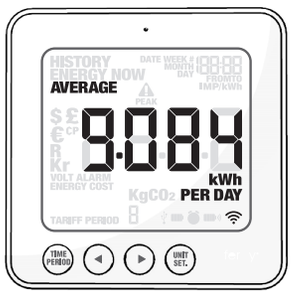
Step 1 - Energy Now
The **efergy e2** monitor shows instant power(kW), estimated electricity costs per day and carbon emissions per day.

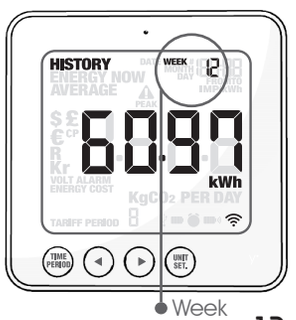
Step 2 - Average
The information shown is the average calculated since the monitor was switched on for the first time. It shows daily, weekly and monthly average consumption in kWh, cost and carbon emission.

Step 3 - History
In this mode the monitor shows consumption of the last 7 days, last 7 weeks and last 24 months in kWh, cost and carbon emission. Press **time period** button to switch between day, week and month.

Note - Hourly data is stored in the **e2** for 240 days. This can be viewed when the data is transferred onto your computer using the **elink** software.







MONITOR SETUP

HOW TO CHANGE MODES

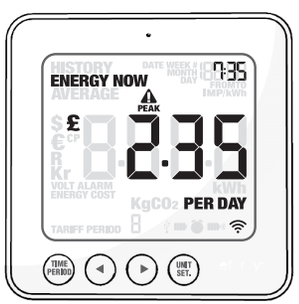
Mode
Press **unit set** button to change the unit displayed.

Step 1 - Power
Shows the power of your whole house at any instant, in kW.

Step 2 - Energy
During the AVERAGE and HISTORY modes the display shows energy consumption, in kWh.

Step 3 - Cost Per Day
Estimates the electricity cost of your home at that current moment in time, in cost per day.

Step 4 - Carbon Emissions
Estimates the indirect carbon footprint for electricity consumption at that current moment in time, in kg.CO_2/day.



MONITOR SETUP

HOW TO CHANGE MODES CONTINUED

Step 5 - Time Period Button
Press **time period** button to change from daily, to weekly and to monthly data during AVERAGE or HISTORY mode. During HISTORY mode the **backward** and **forward** buttons are used to scroll between date, weeks and months.

Day

Week

Month

Day

Week

Month

FAQS

If I remove the batteries will I lose the information on the display?
The display has an internal memory, so if you need to change or remove the batteries the information stored on the display will not be lost.

How do I reset the display (clear the data and start again)?
Press **time period** and **unit set** buttons simultaneously and hold for two seconds CLR will be displayed on the screen.

How far does the device transmit?
Transmitters work up to around 230ft/40m within the home. The 433.5MHz range is well suited for home use. This can cover three floors, and also well suited to buildings where electricity meters are outside the main building.

I have dashes (- - - -) showing on the display. What does this mean?
Move the display closer to the transmitter and press the **link** button. If the dashes remain on the display this would indicate the transmitter and receiver are not communicating. Please contact **efergy** Customer Service to help locate the problem.

Backlight appears to work sometimes, and not other times. Is my display broken?
No. The backlight is on a timer to save battery life. The display should work at darker periods of the day, when any buttons are pressed. The LED backlight will be activated from 18:00Hrs to 6:00Hrs.

For more information about the **e2** and the **elink** software go to www.efergy.com

TECHNICAL INFORMATION

Model Name	**efergy e2**
Frequency	433.5MHz
Transmission Time	6, 12 or 18 Sec
Transmission Range	40 - 70m
Sensor Voltage Range	110 - 400V
Measuring Current	50mA - 200A
Accuracy	> 90%

INSTALLATION NOTES

Date _____

Location Installed _____

Installed By _____

Number of CTs _____

Voltage Set Point _____

Tariff Settings _____